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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Sumeet Sandhu et al.

Title: MULTICARRIER RECEIVERS AND METHODS FOR SEPARATING TRANSMITTED SIGNALS IN A MULTIPLE ANTENNA SYSTEM

Docket No.: 884.B51US1  
Filed: March 30, 2004  
Examiner: Unknown

Serial No.: 10/814,095  
Due Date: N/A  
Group Art Unit: 3662

**MS Amendment**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ Return postcard.
- ☒ Communication Concerning Related Applications (1 pg.).
- ☒ Information Disclosure Statement (2 pgs.), Form 1449 (1 pg.), and copies of 7 cited documents, including the International Search Report for corresponding PCT Application No. PCT/US2005/001206 (4 pgs.).

If not provided for in a separate paper filed herewith, Please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
Customer Number 21186

By: Ann M. McCrackin  
Atty: Ann M. McCrackin  
Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 17<sup>th</sup> day of March, 2006.

JAMES KANYUSIK  
Name

James Kanyusik  
Signature

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
(GENERAL)



Serial 10/814,095

PATENTIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Sumeet Sandhu et al. Examiner: Unknown  
Serial No.: 10/814,095 Group Art Unit: 3662  
Filed: March 30, 2004 Docket: 884.B51US1  
Title: MULTICARRIER RECEIVERS AND METHODS FOR SEPARATING  
TRANSMITTED SIGNALS IN A MULTIPLE ANTENNA SYSTEM  
Assignee: Intel Corporation Customer No.: 21186

COMMUNICATION CONCERNING RELATED APPLICATIONS

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Applicants would like to bring to the Examiner's attention the following related applications in the above-identified patent application:

<u>Serial/Patent No.</u>	<u>Filing Date</u>	<u>Attorney Docket</u>	<u>Title</u>
10/789,387	February 26, 2004	Intel P16330	AN APPARATUS AND ASSOCIATED METHODS TO INTRODUCE DIVERSITY IN A MULTICARRIER CHANNEL
60/536,071	January 12, 2004	Intel P18618Z	A SYSTEM APPARATUS AND ASSOCIATED METHODS FOR HIGH THROUGHPUT WIRELESS NETWORKING

Respectfully submitted,  
SUMEET SANDHU ET AL.

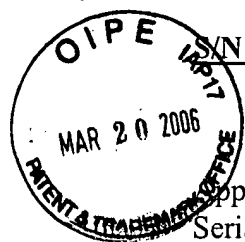
By Applicants' Representatives,  
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
Attorneys for Intel Corporation  
P.O. Box 2938  
Minneapolis, MN 55402  
(612) 349-9592

Date March 15, 2006 By Ann M. McCrackin  
Ann M. McCrackin  
Reg. No. 42,858

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JAMES KAUYSIK  
Name

[Signature]  
Signature



US/N 10/814,095

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Sumeet Sandhu et al.	Examiner:	Unknown
Serial No.:	10/814,095	Group Art Unit:	3662
Filed:	March 30, 2004	Docket:	884.B51US1
Title:	MULTICARRIER RECEIVERS AND METHODS FOR SEPARATING TRANSMITTED SIGNALS IN A MULTIPLE ANTENNA SYSTEM		
Assignee:	Intel Corporation	Customer Number:	21186

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**INFORMATION DISCLOSURE STATEMENT**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicant requests that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicant with the next official communication.

The documents, cited on the attached 1449, were discovered as a result of a Search Report in Applicant's corresponding foreign patent application. Enclosed for the Examiner's information is a copy of the cited documents and the Search Report.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Information Disclosure Statement considered.

INFORMATION DISCLOSURE STATEMENT

Customer No.: 21186

Serial No.: 10/814,095

Filing Date: March 30, 2004

Title: MULTICARRIER RECEIVERS AND METHODS FOR SEPARATING TRANSMITTED SIGNALS IN A MULTIPLE ANTENNA SYSTEM

Assignee: Intel Corporation

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Dkt: 884.B51US1 (INTEL)

The Examiner is invited to contact the Applicant's Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

SUMEET SANDHU ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
Attorneys for Intel Corporation  
P.O. Box 2938  
Minneapolis, MN 55402  
(612) 349-9592

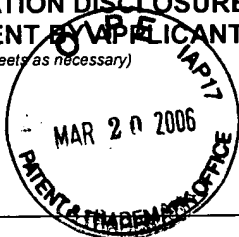
Date March 15, 2006 By Ann M. McCrackin  
Ann M. McCrackin  
Reg. No. 42,858

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JAMES KANYSIK  
Name

[Signature]  
Signature

Substitute for form 1449A/PTO  
**INFORMATION DISCLOSURE  
 STATEMENT BY APPLICANT**  
 (Use as many sheets as necessary)



Complete if Known

Application Number	10/814,095
Filing Date	March 30, 2004
First Named Inventor	Sandhu, Sumet
Group Art Unit	3662
Examiner Name	Unknown

Sheet 1 of 1

Attorney Docket No: 884.B51US1

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	T <sup>2</sup>
	WO-2005/069572A1	07/28/2005	Sandhu, S., et al.	

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		"International Search Report for corresponding PCT Application No. PCT/US2005/001206", (Attorney Docket No. 884.B51WO1), (June 24, 2005), 4 pgs.	
		BÖHNKE, R, et al., "Reduced Complexity MMSE Detection for BLAST Architectures", <u>Proceedings, IEEE Global Telecommunication Conference (GLOBECOM '03), 7(7), (December 1, 2003), 2258-2262</u>	
		DAMEN, M. O., et al., "On Maximum-Likelihood Detection and the Search for the Closest Lattice Point", <u>IEEE Transactions on Information Theory, 49(10), (October 1, 2003), 2389-2402</u>	
		HIGUCHI, K., et al., "Adaptive Selection of Surviving Symbol Replica Candidates Based on Maximum Reliability in QRM-MLD for OFCDM MIMO Multiplexing", <u>Proceedings, IEEE Global Telecommunications Conference (GLOBECOM '04), (November 29, 2004), 2480-2486</u>	
		SEETHALER, D., et al., "Efficient Approximate-m1 Detection for MIMO Spatial Multiplexing Systems by Using a 1-D Nearest Neighbor Search", <u>Proceedings of the 3rd IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2003), (December 14, 2003), 290-293</u>	
		YUE, J., et al., "Channel Estimation and Data Detection for MIMO-OFDM Systems", <u>Proceedings, IEEE Global Telecommunications Conference (GLOBECOM '03), 7(7), (December 1, 2003), 581-585</u>	

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached